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ABSTRACT

This paper proposes to give an evolutionary background to a method developed for the analysis of language seen as expression of intention and morality--the method is named "Perspective Text Analysis." The paper argues that this name indicates that beyond the physical dimension of a text there is a metaphysical one, which can be discovered by a formal mechanism, the cue component of which is the Agent, which controls the perspective of the text. According to the paper, the Agent has developed as a consequence of the shift from object (culture) as governor to mentality as governor of human action. The paper argues that controlling the Agent in a text analysis is the only possible way of controlling consciousness. The main point put forward in the paper is that consciousness is bound to syntax, and thus it follows that lexically carried linguistic information cannot be used for intentionally based text analyses. Ten figures are included. (Author/SR)

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Language as Carrier of Consciousness

Inger Bierschenk

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A STATEMENT ON

METAPHORIC SENTENCES

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ABSTRACT

This paper aims at pointing out the differing interpretations of metaphoric sentences' comprehension as developed in the recent psycholinguistic literature. The inadequacies of the psycholinguistic theories of language processing which rest on the assumption according to which language is the expression of a relatively autonomous cognitive activity are highlighted in the interpretation of metaphors as anomalous sentences. The rejection of the thesis of the anomalous character of metaphors due to the acknowledgement of the role of the semantic component of words, of the extra-linguistic context in which metaphors are produced, and more generally of the pragmatic factors influencing comprehension, invited the new view according to which metaphors are to be conceived as conveying some cognitive re-organization. The ecological approach to cognitive activity stressing the role played by the 'events' in modeling comprehension can be regarded as the best theoretical frame according to which it is possible to establish a link between language and perception and redefine the whole problem of language use.

A STATEMENT ON METAPHORIC SENTENCES

- Introduction

In what follows I will argue that for a sound psychological understanding of cognitive human activity, meaning has to be re-defined on wider, extralinguistic grounds, considering perception as well as shared knowledge of world events.

The inadequacies of the current psycholinguistic theories of language processing, which are based on a purely linguistic interpretation of meaning, will be highlighted with special reference to the study of metaphorical sentence comprehension.

In its simplest form, the so called nominal metaphor, a metaphorical sentence is one in which the name referring to a person, object, fact, or event is given a different name which refers to a different person, object, fact, or event. So the sentence 'My surgeon was a butcher' is a metaphor since a name, the so-called 'topic', in this case 'surgeon', is given another name, the so-called 'vehicle', in this case 'butcher'. Upon hearing this sentence, the listener understands what the sentence

is meant to convey: the person who uttered it was really dissatisfied with his surgeon.

The listener comprehends the meaning of the sentence because there are some properties shared by both the topic and the vehicle; a sub-set of the properties of the vehicle are referred to the topic. The set of shared properties which set forth the resemblance between the topic and the vehicle are called the 'ground', while the other properties which definitely establish the differences between them are called the 'tension' (Richards, 1936).

In the present talk we are mainly interested in showing the difficulties encountered by researchers in explaining the comprehension of metaphorical sentences when language and meaning are assumed as separated from the other cognitive processes.

The new concept of meaning required can be conceived of as the product of the cognitive activity involved in making sense from our experiences in which the physical environment, other people, their beliefs and social exchanges, have a fundamental role as shown by recent evidence on cognitive processes. This interpretation compels us to go beyond the traditional boundaries of the linguistic realm toward the acknowledgement of the unitary and complex character of cognitive activity as suggested by the ecological approach.

- Metaphor as 'anomaly'

During the seventies, psycholinguists renewed their interest in metaphors thanks to the success of Chomsky's theory in promoting fruitful research on cognitive activity.

In his 1957 and 1965 linguistic theory, Chomsky held that the generative rules found in natural languages required a distinctive linguistic capacity, that there were differences between specifically linguistic and other cognitive abilities. In so arguing, he intended to stress the independence of the linguistic system from the other cognitive processes such as memory and perception. At the same time he established the logical priority of language in knowledge production (Greene, 1972). Language, in the broad sense which included information processing, could be the key to our cognitive activity, it could offer a new simple theoretical architecture with which mental work could be modeled (Lyons, 1970).

As to the study of metaphorical sentences, the subordination of semantics to syntax, on which Chomsky's theory rested, favored the consideration of metaphors as anomalous, defective sentences which could be explained only by the violation of some selection restriction rules (Katz & Fodor, 1963). The only way to explain a speaker's ability in comprehending metaphors and other deviant and anomalous sentences was to suggest that defective sentences could be reduced to a grammatical paraphrase through a set of entailment or transformation rules. According to this perspective, metaphors could be understood thanks to their literal counterparts.

The solution envisaged, however, was responsible for the deep conceptual change which affected psycholinguistic research a few years later when the fundamental role of semantics in comprehending language was definitely acknowledged.

Two aspects of Chomsky's solution helped this development. One was the distinction between literal and figurative or metaphorical language, and the other was the concept of anomalous or defective sentence.

At the end of the seventies, both the linguistic and the psycholinguistic approaches to the study of metaphors converged. It was assumed that metaphors could be comprehended only in relation to their literal equivalents and through a number of steps consisting in retrieving its literal meaning, in discarding it as nonsensical, and finally in grasping the figurative one. This common view helped to produce a great deal of experimental research based on the response latencies paradigm (see Hoffman, 1984 for a review).

The theoretical frame provided by Chomsky lead to the rediscovery of both the study of cognitive processes and of metaphorical language, even though in an indirect way in the case of the latter as it was exactly the defective character of metaphors which made them interesting for psycholinguists.

The rise in the renewed interest in metaphorical language from the peculiar psycholinguistic perspective during these years has been parallel with the acknowledgment of the insufficiencies of the interpretations mainly based on the syntactic, the semantic, and the pragmatic dimensions of language.

- From 'anomaly' to conceptual re-organization

At the end of the seventies, when the sequential model of the human information processing approach was shown to be fairly inadequate for the interpretation of complex cognitive processes in need for much more

global accounts, the "anomaly" theory of metaphor comprehension began to elicit scholars' criticism from several converging perspectives.

The distinction between literal and metaphorical language, and the ensuing problematic distinction between literal and metaphorical meaning, began to be questioned (Gibbs, 1984; Dascal, 1987): both these uses of language require the same cognitive processing to be comprehended. The opportunity to explain metaphors on more articulated grounds than the mere anomaly thesis or the usually assumed syntactic approach became clearer day by day.

Even the analysis of the semantic features of words and concepts used in creating implicit resemblance in metaphors proved not to be strong enough a strategy to explain the metaphorical meaning of the sentences (Tversky, 1977; Ortony et al.,1985). The renewed interest in semantics and the acknowledgment of the role of meaning in comprehending language alerted scholars to the importance of both the linguistic and extralinguistic context in which metaphors are produced. Actually, it was shown that when metaphors follow a sentence acting as a linguistic or pragmatic context, they are understood more easily and more quickly than when they were presented as isolated sentences (Gildea & Glucksberg, 1983; Ortony, 1979).

Moreover, many sentences can be considered at the same time as literal or metaphorical and accordingly they can be understood only in relation to the specific extralinguistic context in which they are uttered.

At the same time Glucksberg and colleagues showed that the comprehension difficulties of metaphors to be judged true or false were not responsible for the time required by them to be responded to which was longer than that required by literal sentences. He argued that this

effect was due to the peculiar task subjects were engaged in. Actually there is an interference effect between the logical truth value of the sentences when used literally and their pragmatic truth value assumed as true by people who in comprehending them follow the Quality Maxim by Grice (1975).

The rejection of the thesis of the anomalous character of metaphors due to the mentioned developments, invited the new view according to which metaphors are to be conceived as conveying some cognitive re-organization. Federn Kittay observes:

'But if metaphors are cognitive it is not because they add to our store of factual data. It is because a metaphor causes us to think about something in a new way, to reorganize the concepts we already have, and to form new conceptualizations...This is because the conceptual incongruity, when appropriate pragmatic considerations are operative, requires a conceptual resolution (an at least tentative conceptual reorganization)' (Federn Kittay, 1987, 75).

It is at this point that metaphors interpretation consists no longer in a mere linguistic analysis of the words expressed, but in the analysis of the concepts implied, thus establishing a new relationship between language and knowledge. However it is important to stress that the new approach required is feasible only if both meaning and comprehension are eventually re-defined.

- Toward an ecological approach to the study of metaphors

There are signs that the study of metaphors comprehension can help fill the gaps among perception, language, and experience sooner, and perhaps better, than the study of the literal use of language. However, it is becoming clearer and clearer that new perspectives are necessary to explain also how people understand literal language as really spoken in

everyday life. Comprehension, and hence meaning, are in need of a redefinition. Potter, Valian and Faulconer, studying mental representation of meaning, discovered that it is not verbal, as is usually assumed, nor imagistic. On the contrary, as they say:

' an abstract conceptual representation of the sentence was compared with a similarly abstract representation of the probe, whether the latter was presented as a word or a drawing' (Potter, Valian, Faulconer, 1977, 8).

Their experimental findings allowed them to state that the pragmatic implications of a sentence depend precisely on such an abstract, conceptual representation common to language and perception. This result marked the end of the primacy of language in modeling cognition, even though many researchers still refute this evidence.

From a different perspective, Clark and Marshall (1981) studying one of the most basic linguistic phenomena - definite reference - could not help but apply the pragmatic concept of mutual knowledge to explain it. Mutual knowledge refers to the speaker, the listener, and the objects referred to, as physically, linguistically, universally known within the community they belong to.

Rosh's theory of 'prototypes' (1975; Rosch & Mervis, 1975) acknowledged the graded structure of our partitioning of the world, thus providing natural concepts with a new flexibility due to the effect of 'typicality' and of 'goodness' of the examplars and also helping to understand the vicarious nature of the meaning of the words used to express them.

More recently, Murphy and Medin (1985) advanced the thesis according to which cohesion can be achieved in conceptual structure only if there is a 'glue' among the concepts themselves from which cohesion arises. The 'glue' is not dependent only on shared features of similarity among

concepts; it presupposes that people have a general knowledge of the world so that a concept can be defined by both the attributes and relations shared by the single objects that are subsumed under that concept and by the attributes and relations that the peculiar concept shares with the other concepts in people general world knowledge. Also Barsalou (1987) studying categorization found that people can construct new categories on the spot which can be created to pursue novel goals: the so called 'ad hoc' categories. 'Ad hoc' categories share with the 'natural' and the so called 'goal-derived' categories a graded structure according to which there are exemplars of the category that are more typical than others. He argues that the flexibility exhibited by categories is a fundamental property of the human cognitive system.

- The ecological approach

These arguments on sentence representation, definite reference, concepts and categorization processes may be considered as an independent development of the theses held well before by the psycholinguists who had first set the program for a cognitive ecological psychology centered on the symbolic activity. It is worth mentioning the study by Bransford and McCarrell in which they originated a new perspective in the study of comprehension and meaning. Actually their position was the following:

'...one's knowledge of his environment is considerably richer than knowledge of the perceptual characteristics of isolated objects...perceptually derived knowledge entails knowledge of relations rather than things...Linguistic comprehension can also be characterized as 'the grasping of relations', linguistic comprehension depends upon the comprehender's cognitive, alinguistic ability to activate knowledge that will allow relations to be grasped. (Bransford & McCarrell, 1974, 200).

In their view, language is comprehended thanks to the cognitive activity consisting in both defining the instructions for creating meaning and grasping the semantic content of sentences which produces their comprehension. As they put it:

'Ss do make cognitive contributions while comprehending... certain contributions are prerequisites for achieving a click or comprehension...knowledge of abstract constraints on entities and relations plays an important role in determining Ss' contributions... meaning is the result of such contributions and is best viewed as something that is 'created' rather than stored and retrieved' (Bransford & McCarrell, 1974, 201).

In sentence comprehension individual word perception is not the most important thing. Actually the same word may have many different senses according to the context in which it is embedded. Context, here, is meant in a very broad sense since objects are not identified as mere objects, instead they are understood relative to their roles in events. So there is no principled distinction in the processes needed in comprehending literal and metaphorical language: what matters is the event in which language takes place.

As the seminal researches on metaphor by Verbrugge and MacCarrell (1977) clearly show, the relation of similarity and resemblance on which metaphors rest can be best explained by assuming that the differing salience of the 'features' of the entities involved is a function of the particular event in which they participate, rather than by considering it as dependent on the specific context in which the metaphor is produced, be it linguistic or extralinguistic.

The problem of comprehension, as well as that of word meaning does not lie in widening the range of constraints, but in determining what

constraints need to be imposed on words to make sentences and metaphorical combinations interpretable:

'Language operates as an elaborate system of constraints that, among other things can guide the reinterpretation of types of experiences specified originally in perception and action... Metaphoricity is not a property of sentences as objects, but is a type of dynamic relation holding over utterances, language users and perceived or imagined settings. The risk in treating metaphors as a preeminently linguistic phenomenon is that a particular linguistic attitude is adopted: Meanings can be ascribed to sentence-objects abstracted from communication settings' (Verbrugge, 1979, 78-9).

Verbrugge's work pushes the redefinition of language and meaning still further: language and event perception are compatible and mutually supportive: comprehension may be conceived as a form of catalysis since event perception guides linguistic action as is shown not only by metaphor comprehension but also by deictic expressions. In this articulated system, metaphors are a catalyst for knowing since metaphorical processes can depend on language as well as on perceptual experience, coordinated movement and thought; all the cognitive functions are considered as accomplishing the mutual fitting between an organism and its environment. The reconciliation between the human biological organism and his physical environment is fully accomplished and language is one of the means through which it can be realized. As Verbrugge says:

'Linguistic actions are similar to other events that provide information for perception and action; a listener must become attuned to the natural relations between speech and social settings. In the case of language, the necessary attunements develop over years of talking and listening in a particular social environment, in which the natural relations between speech and setting are highly invariant and slow to change...in both linguistic and non linguistic events, the relation between indexes and listeners (or perceivers) is non arbitrary. Perception, thought, and action are all constrained in highly systematic ways...Language constrains users in non arbitrary ways' (Verbrugge, 1985, 180).

In this theoretical frame, language is no longer conceived as a formal, representational, mediated, arbitrary, system. It no longer establishes

a separation between the human being and his environment. On the contrary, it is the tool produced by evolution to realize more complex and abstract forms of fitting between them.

- Concluding remarks

At this very point it is clear that the required redefinition of comprehension as well as of meaning is achieved thanks to the definition of a naturalistic and biological view of human cognitive abilities. Several paths have been discovered in the long journey from a language based interpretation of cognitive processes to a cognitive interpretation of the different functions through which the mutual interdependence of human beings as biological systems and their environment is realized. This long and difficult course has been greatly helped by the study of metaphorical sentence comprehension which finally addressed the crucial aspects of language, thought and cognitive activity.

Meaning is attually constructed by the duality linking the perceivers to their physical and social environment. This duality sets the constraints according to which people act both physically and symbolically on the environment in a purposeful way. Perception, language, as well as the other cognitive resources to be properly understood have to be studied in their mutual interdependence which expresses the same interdependence between the organism and its environment.

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The Textual Agent

Text may be formally defined as the amalgamation of question and answer. It should be regarded as a transformation of a dialogue situation whose exact cultural anchorage in time and space is not transparent. The transformative step from speech act to text implies that mentality is perspectivated. Therefore, one must not expect that other persons will show up at Socrates' and Plato's places in the question scheme to mark the origin of all arguments. The significant property of a text is that it operates even though the empirical agents are unknown or maybe because of it. Such a way of operating is only possible because all that man creates and gives name to becomes metaphorical agents for himself. If Plato answers "Your ideas interest me" or "The questioning makes me strong", then the "ideas" are agents for Socrates and the "questioning" for Plato. Similarly the agents are metaphorical in relation to any text producer. These agents will be termed "textual agents". It is not possible to know in advance which they are, since the function of defining them lies in the text producer at the moment of creation. This action manifests itself in the verb. The function of the metaphorical verb is to spatialize the agent and his mental object. The textual agent manifests itself only in the statement, that is, the answer in the text format. In relation to the empirical agent the statement represents him indirectly, which means that the statement as form represents consciousness. The direct representation of the agent takes place in the imperative sentence, the question (starting with Wh-element or verb), and the passive, all three representing knowing. For an operationalization of the model it has been proved important to treat the textual agents as variables and the textually non-present agent as an invariable. The empirical agent's (knowing) perspective differs from that of the textual agents (consciousness) in the sense that it picks up something deeply systemic, which steers the text at a metaphysical level. But it is its cooperation with the physical level that gives meaning to the text.

Kant had probably no idea that his metaphysics would be operationalized on text (Bierschenk & Bierschenk, 1986 a, b). His statement: "I know only the stars above me and the ground below me" implies that he decides upon his existential conduct with reference to a coordinate sys-

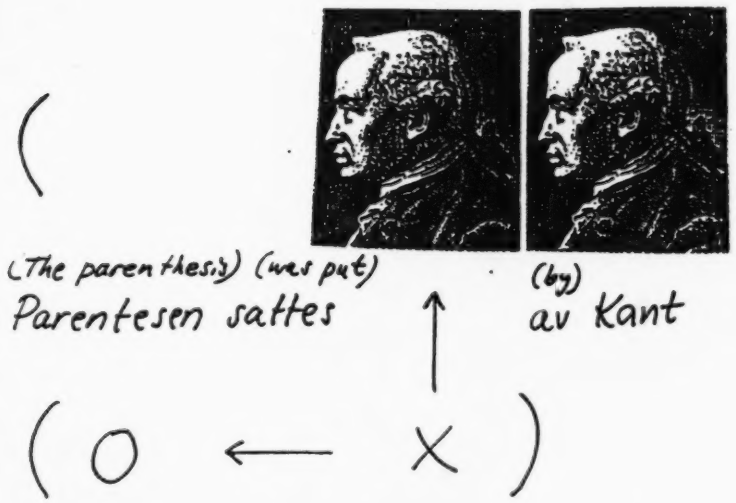

Figure 9. Agent governing: Morality as steering and control function

tem. This means nothing else but a determination of the outer parenthesis, symbolizing the possibilities and limitations existing between personal responsibility and realism. The model may be illustrated as in Figure 9. The example shows that much has happened since Tukulti's revolt of the passive voice. The relation between the physical Kant and his mental conduct is transcendental. He himself is the foundation of his actions and by way of determining the point of reference at himself he controls both the objective (orientating) dimension and the acting (intentional) coordinatively. Modern man is characterized by actions which do not always coincide with inner conceptions, depending on systemic restrictions. In a text, the inner dimension is uncovered such that people give a perspective on their own actions. Perspectivation refers to a mental spatialization, whose consequences are discovered through the tension between the left and right parenthesis. Through the evolvement of the metaphorical paradigm it seems natural that the objective dimension of the text and the ground upon which it rests shows a spatial scope, dependent on which textual agents that control it. The cooperation between A, control function, and O may at the direct observable level look accidental, if one expects a text to be analytical. But text is synthetic, and a synthesis is free from the variable level (Hartman, 1967). For an analysis of synthesis, however, there is a need for control of the synthetic steering mechanism the way it is shown in Figure 10.

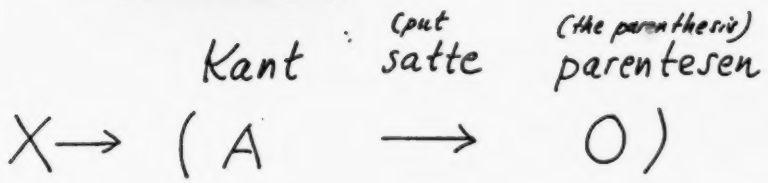

Figure 10. Operationalization of the agent function

This steering mechanism is not conscious, but through the analysis of the culturally based dimension of the text it emerges. It operates from a text producer, but its result (emergence) is not bound to a person. It is more suitable to conceive of the text as a representation or reproduction of a conduct which may be the expression of a group spirit, enterprising spirit or spirit of the time. In that several persons may take the same textual standpoint, they may also have the same perspective. By recognizing Kant's conception of something superordinated, which may just as well be called morality, as steering a text, the variable of this superordinate (X) may be used at the text processing. With this new limit of consciousness a measuring instrument has been created for studying phenomena of our age, such as differences in mentality and their changes within culturally similar environments (Bierschenk & Bierschenk, 1987, pp. 15, 29).

Perspective Text Analysis

Every language analysis founded on the assumption that language is something objectively given fails to say something objective about what a text brings about. Inbuilt in every object of language there is an intention, an individually bound component, which an analysis has to encompass in order to be called objective.

As has been put forward, the intentional component is carried by syntax and an intention is characterized by a simultaneous expression of agent, action and object. The central component of this model is the Agent, which differs from the linguistic subject in that it is metaphorical, that is, perspective producing. This property gets its function in text analysis such that the component as textually, physically, present (textual agent) represents a text producer, whereas as textually absent, or metaphysically present, it represents a conduct. This double function of the agent seems to be tied to two interacting linguistic main forms of representing consciousness, namely the question and the statement (answer). The criterion for distinguishing them is that the question lacks a perspective-keeping textual element before the verb. (The wh-element has only an organizational function.)

The Agent is the steering component for text analysis when the text is conceived as intentional (mentally conditioned) action. The question is regarded as indicator of mentality and not as cultural action the way it does in discourse context, for example. The problem of culturally defined language analyses is that form and function are confused, which has as its consequence that a text is not analyzed independent of situational conditions. This necessitates interpretation during processing and by that it is not possible to uphold any objectivity. Taking the question form to define a text such that it marks a placeholder for a physically absent agent marks a limit separated from the physical representation of the text, an outer parenthesis objectifying the text from the perspective steering its production. A tangible example of the consequences of this is that all linguistic sentences expressed in the form of question, imperative or passive transforms the grammatical subject, which is culturally determined, into an object. This is a mental change which was possible thanks to the metaphorical paradigm shift. Culture is something that changes very slowly while mentality may change rapidly.

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Author Notes

The illustrations in the Figures 2, 3, and 4 are based on the pictures presented in Jaynes (1976). The drawings of Figures 5 and 6 are stylized with reference to Yngve Svalander's illustrations of the second editon of Eva Hede'n, "Grekiska sagor", Almqvist & Wiksell, 1956. The illustrations in Figures 7, 8, 9, and 10 are photos taken from Karl Holzamer, "Philosophie. Einfuehrung in die Welt des Denkens", C. Bertelsmann Verlag, 1961. The article was was presented at the 1th European Congress of Psychology, Symposium on Ecolcgical Psychology: Human Response to Environmental Change, Amsterdam, July 2-7, 1989.